

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



December 17, 1997

Mr. Andrew C. Welch
High Desert Power Project, LLC
3501 Jamboree Road, South Tower Suite 606
Newport Beach, CA 92660

Dear Mr. Welch:

**HIGH DESERT POWER PROJECT DATA REQUESTS NUMBERS 1 THROUGH 77,
AND TRANSMISSION SYSTEM ENGINEERING DISCUSSION TOPICS 1 THROUGH
11.**

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission (Energy Commission) staff requests that the High Desert Power Project, Limited Liability Company (LLC) supply the information specified in the enclosed data requests (Data Requests 1 through 77).

The subject areas addressed in these data requests are air quality, alternatives, biological resources, cultural resources, facility design, hazardous materials management, land use, paleontological resources, project description, public health, socioeconomic resources, soils, visual resources, waste management, water resources, worker safety, and transmission system engineering. The information requested is necessary to: 1) understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental effects, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and/or 5) assess project alternatives and mitigation measures.

Written responses to the enclosed data requests are due to the Energy Commission by January 16, 1998 or at such later date as may be agreed upon by the Energy Commission staff and the applicant. A publicly noticed workshop is scheduled for December 30, 1997, in Sacramento to discuss these data requests and to have staff available to answer questions regarding the data requests and the level of detail required to answer the requests satisfactorily.

If you are unable to provide the information requested in the data requests or object to providing it, you must, within 15 days of receiving these requests, send a written notice of your inability or objection(s) to both Commissioner Jananne Sharpless, Presiding Member of the Committee for this proceeding, and me. The notification must also contain the reasons for not providing the information and the grounds for any objections (see Title 20, California Code of Regulations section 1716 (e)).

Mr. Andrew C. Welch
December 17, 1997
Page 2

Also enclosed are Transmission System Engineering discussion topics 1 through 11. Staff will schedule a workshop in early January 1998 to discuss these topics. A notice for this workshop will be sent to the High Desert Power Project mailing list at a minimum of 10 days prior to the workshop.

If you have any questions regarding the enclosed data requests, please call me at (916) 653-1614, or Eileen AllEn at (916) 654-4082.

Sincerely,

Richard Buell
Siting Project Manager

Enclosure

cc: Proof of Service
Mr. Jeffrey D. Tranen, Independent System Operator
Mr. Gary C. Heath, Over Sight Board
Mr. Nguyen, Southern California Edison
Mr. Ray Menebroker, Air Resources Board
Mr. Robert G. Zeller, Mojave Air Quality Mgmt. District
Mr. Matt Haber, U.S. EPA - Region 9 - Air and Toxics Division
Mr. Marc D. Joseph, CURE

RKB:rkb
DATAREQ1.WPD

HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)

Table of Contents	Page
Air Quality	1
Alternatives	8
Biological Resources	9
Cultural Resources	12
Facility Design	14
Hazardous Materials Management	15
Land Use	17
Paleontological Resources	19
Project Description	21
Public Health	23
Socioeconomic Resources	25
Soils	26
Visual Resources	27
Waste Management	31
Water Resources	32
Worker Safety	33
Transmission System Engineering	34
DISCUSSION TOPICS	35

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Air Quality

Author: Tuan Ngo

ISSUE: The Application for Certification (AFC) identifies that a new natural gas pipeline and new transmission line will be built for the proposed power plant. The expected emissions resulting from the construction of these linear facilities, although short-term in nature, need to be provided in order to analyze the air quality impacts from the project.

1. Please provide a construction schedule for the natural gas pipeline and transmission line.
2. Please provide a list of all construction equipment to be employed, and the duration (days, weeks or months) of their use, for the construction of the natural gas pipeline and the transmission line.
3. Please provide a calculation of daily emissions, including fugitive dust emissions, from the construction of the natural gas pipeline and transmission line. Also, please include all assumptions, emission factors, and estimated hours of operation of the construction equipment to be used during construction.

ISSUE: AFC Appendix Y proposed "good combustion conditions" as Best Available Control Technology (BACT) for carbon monoxide (CO) emissions, and states that good combustion conditions will maintain CO emissions at 20 parts per million (ppm). It also identifies that a CO oxidation catalytic system could reduce CO emissions further, but that the catalytic system would increase ammonium sulfate emissions which would contribute to particulate matter less than 10 microns (PM10) emissions. The AFC states that this was the case for the Tenaska Washington II Generation Project (a 240 megawatt (MW) combined cycle power plant). The following information is needed to evaluate the effectiveness of the proposed mitigation measure for CO emissions.

4. Please provide the CO oxidation catalytic system manufacturer specifications and source test reports for the Tenaska Washington II Generation Project. The report should include the ammonium sulfates, as PM10 emissions, with and without the CO catalytic oxidation system in operation.
5. Please provide a copy of "Appendix G of the Final Environmental Impact Statement-Proposed Tenaska Washington II Generation Project", as referenced on page Y-11 of AFC Appendix Y.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

ISSUE: Appendix Y states that the combined cycle scenarios will use a selective catalytic reduction (SCR) system to maintain the combustion turbine nitrogen oxide (NO_x) emissions to 4 ppm at 15 percent oxygen content. Staff needs the following information to verify that the SCR system can maintain the NO_x emissions at the proposed level.

6. Please provide vendor information related to the control efficiency of the SCR system proposed for the combined cycle scenarios. The information should include the type of catalyst, the bed depth, operating temperature range, scheduled maintenance and catalyst replacement, discussion of methods to be used to maintain the turbine NO_x emissions on a continuous basis, and any manufacturer's guarantees.
7. Please provide SCR vendor information in the form of a control loop diagram which identifies the equipment to be used to monitor and maintain the amount of ammonia injected and to minimize slippage.

ISSUE: Appendix Y states that a "dry Lo-NO_x" combustor will be used in all three scenarios to maintain the combustion turbine NO_x emissions to 9 ppm at 15 percent oxygen content. Vendor information related to the control efficiency of the system is needed to verify that the "dry Lo-NO_x" system can maintain the NO_x emissions at the proposed level.

8. Please provide information related to the ability to meet 9 ppm NO_x emissions for the combustion turbine "dry Lo-NO_x" combustor for each turbine considered in the AFC. In addition, please provide manufacturer documentation showing that a 9 ppm NO_x emission is guaranteed for the system.

ISSUE: AFC Appendix A, Tables A-10 to A-15, summarize the facility worst-case emissions. It is not clear whether the worst-case emissions include emissions from start-up and shut-down cycles. Such emissions should be included in the facility's total emissions.

9. Please provide all vendor data for each of the turbine brands and post combustion emission control systems considered in the AFC. These data should include but not be limited to emissions test data, source test data, vendor guarantee data, or any other vendor-supplied information that substantiates the emissions tabulated in Tables A-10 to A-15 of Appendix A.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

10. Please provide all vendor information for the duct burner, including the British Thermal Unit (Btu) rating, and all criteria pollutant emissions from the duct burner.
11. Please clarify whether the worst-case facility emissions represented in Tables A-10 to A-15, Appendix A, include emissions from start-up and shut down cycles.
 - a. If they do, please provide sample calculations for the facility's total emissions.
 - b. If not, please provide revised tables showing the facility's worst-case emissions, including emissions from start-up and shut-down cycles.

ISSUE: The Commissioners expressed serious intentions at the December 3, 1997 business meeting that the licensing process be completed within the 12-month statutory requirement. In its acceptance of the High Desert AFC, the Commission encouraged the applicant to provide the information required by the Mojave Desert Air Quality Management District (District) as soon as possible, but no later than 120 days from November 19, 1997, the day the District deemed the application complete. While we will also need to review that information, we would like you to provide us with more general information now about the specific offset strategies that you are pursuing and will propose, to allow us to carry out our analysis efficiently. We need this information now, because some of the potential offset strategies identified in the AFC are more complex than others and may be more challenging to address within the 12-month licensing process. The types of offsets that you choose to propose are also of significant interest to the District, Air Resources Board (ARB) and U.S. Environmental Protection Agency (EPA), and we will need to review them with all of these agencies in order to provide you with timely guidance and assure that we complete our analysis on schedule.

12. Please describe in as much detail as possible, within 30 days, the strategies that you plan to use to secure emission reduction credits (offsets) for the project, and any progress that you have made, to date, in securing the emission reduction credits.

ISSUE: The project area is classified as non-attainment for the ambient air quality standards for ozone and PM10. As a result, any increase in emissions of these pollutants or their precursors (i.e, NOx and volatile organic compounds (VOC)) from the proposed facility may exacerbate the number or severity of violations of those pollutants. In the AFC, the applicant has identified various sources of emission reductions being considered to mitigate the project's emission impacts, including the

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

use of emission reductions from cement plants, road paving, George Air Force Base, and inter-basin offsets from the South Coast Air Basin. More detailed information is needed by staff to determine that the proposed emission reduction credits are surplus, enforceable, real and quantifiable mitigation. However, the applicant has not yet provided a detailed emission offset proposal for the project. Therefore, consistent with the District's request, please provide the following information as soon as possible, but not later than 120 days from November 19, 1997.

13. If emission reduction credits are to be obtained from the cement plants, please provide the following:
 - a. Identify the quantity of emission reduction credits to be purchased from each of the cited facilities, such as the Mitsubishi, Riverside, and Southwestern cement plants.
 - b. Describe the methods to be used to achieve the NO_x emission reductions from the Mitsubishi, Riverside and Southwestern cement plants. For example, will NO_x emissions be reduced by a reduction of fuel consumption, installation of additional control devices, fuel switching, or a reduction of the hours of operations, or some other methods?
 - c. Source tests or other data to substantiate the emission reductions identified in the AFC.
 - d. Please provide letters of intent or other binding agreements with Mitsubishi, Riverside and/or Southwestern Cement companies.
14. If PM₁₀ emission reductions are obtained from paving or treating of unpaved roads, please provide the following information:
 - a. Detailed description of the locations and length of roads to be treated (paved or treated with dust suppressants), the methods to be used to reduce emissions from unpaved roads, and a schedule for the work to be performed.
 - b. A protocol of the methods to be used to evaluate the road emission reductions based on vehicle count, type of vehicles, estimated vehicle weight, and vehicle speeds.
 - c. A protocol to be used to collect dust samples from the unpaved road and the method to be used to estimate the dust's silt content.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

15. If PM10 emission reductions are obtained from the District's bank for which a banking rule may be adopted in the near future, please provide the following information:
 - a. Please provide a list of ERCs that are being considered to purchase.
 - b. Please provide letters of intent or other binding agreements, and a schedule for acquiring emission reduction credits from each of the PM10 ERC owners.
 - c. Please provide a copy of each of the District's issued ERC certificates that are being considered to purchase.
16. If the emission reductions are obtained from the George Air Force Base, please provide the following information:
 - a. A letter of intent or other binding agreement to purchase the emission reduction credits from George Air Force Base.
 - b. District Rule 1302 (C)(3)(b)(ii) prohibits the use of emission reductions as offsets if those reductions are the result of the shut down of emission units which are not contemporaneous with the creation of the offsets, are not included in the State Implementation Plan, or are not approved by the EPA. Therefore, please provide documentation showing that the George Air Force Base's emission reduction credits are contemporaneous, are included in the SIP and are approved by the EPA.
17. If emission reductions are to be obtained from the South Coast Air Basin, please provide the following:
 - a. A detailed description of the location and quantity of emission reductions available for each source of offsets from the South Coast Air Basin. Also, please provide letters of intent or other binding agreements to purchase such offsets.
18. If you propose to use other offset sources not identified in the AFC, please identify the name of the company where emission reduction credits are obtained, the quantity of credits, when the credits were generated and by which method, whether the credits have been approved by the District, and any letter of intent or other binding agreements to purchase such credits.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

ISSUE: The AFC contains a brief discussion of a schedule to acquire the Federal Prevention of Significant Deterioration (PSD) permit. Project air quality impacts, as identified in the AFC, are several times higher than the PSD significance levels. Therefore, further work will be needed to define the project's impact area to identify the sources to be modeled for the PSD increment analysis. The results of the increment analysis must be below the allowable growth increment to gain approval of a PSD permit. Therefore, in order for staff to evaluate whether the project is likely to comply with PSD requirements, please provide the following detailed information within 60 days.

19. District Rule 1302(B)(1)(a)(iii) and the Federal PSD regulations [40 CFR §52.21(o)(1)] require an analysis of visibility impacts on Class I areas. Please provide an analysis of impacts on visibility in the nearby Class I Areas, such as Cucamonga Wilderness, San Gorgonio Wilderness, and San Gabriel Wilderness, all of which are located within 60 miles of the project site.
20. The Federal PSD regulations [40 CFR §52.21 (o)(2)] require an analysis of air quality impacts on the area as a result of the project and growth associated with this project. Please provide an analysis of the air quality impacts projected for the area as a result of the project and general commercial, residential, industrial and other growth associated with it.
21. Please provide an analysis of the ambient air quality conditions in the area that would be affected by the proposed project. The analysis should include:
 - a. For criteria air contaminants, at least one year of continuous air quality monitoring data gathered for the purpose of determining whether the project emissions could cause or contribute to a violation of the standard or exceed any maximum allowable increase.
 - b. For non-criteria air contaminants, ambient air quality monitoring data, as required by the federal EPA, to assess the impacts to ambient air quality in the affected area.
22. Please provide, if required by the federal EPA, information on the air quality impact of any or all general commercial, residential, industrial and other growth which has occurred since August 7, 1977, in the affected area.
23. Please provide a demonstration that the proposed project's emissions will not cause or contribute to any violation of the existing ambient air quality standards (AAQS) or any applicable maximum allowable increase over the baseline ambient air pollutant concentration in the affected area.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Alternatives

Lead Authors: Eileen Allen/Richard Buell

ISSUE: Two potential configurations of the proposed High Desert Power Project will use significant quantities of water. State Water Resources Control Board Policy 75-58, the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling, requires the evaluation of alternatives to the use of "fresh inland waters," specifically those using water from Central Valley streams. The High Desert Power Project intends to use State Water Project water which originates within the Central Valley. This policy states that "...an analysis of the cost and water use associated with the use of alternative cooling facilities employing dry, or wet/dry modes of operation" must be conducted.

24. Please provide an analysis of the cost and water use associated with the use of dry or wet/dry cooling technology for the proposed High Desert Power Project combined cycle configurations. The analysis should identify for both dry and wet/dry cooling technologies the estimated capital and operating costs and anticipated water demand. This analysis should identify all assumptions, examples and information sources used in the analysis.
25. Please include a discussion of the relative environmental benefits and disbenefits of wet, versus wet/dry, and dry cooling technologies. This discussion should include evaluation of water demand, particulate matter emissions associated with the use of wet and wet/dry cooling technology, visual resources implications, and land use requirements.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Biological Resources

Author: Marc Sazaki

ISSUE: The desert tortoise is listed pursuant to federal and state law as "threatened". Because desert tortoise habitat will be impacted by the proposed project, particularly by its linear facilities, both federal and state endangered species consultations will be necessary. In both cases, these agencies will impose terms and conditions on the project owner to mitigate any impacts identified during the project review process. Energy Commission staff will include these mitigation requirements in a set of conditions of certification to insure compliance with all biological resources related requirements. To see that these conditions of certification are carried out properly, a qualified biologist must be designated by the project owner. On AFC page 5.3-34, it is stated that the project proponent will employ a "qualified biological monitor".

26. Will the biological monitor to be employed by the project owner have the following minimum qualifications?
- a bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field,
 - three years of experience in field biology or current certification of a nationally recognized biological society, such as the Ecological Society of America or The Wildlife Society,
 - one year of field experience with resources found in or near the project area, and
 - the appropriate education and experience for the biological resources tasks that must be addressed during the proposed project construction and operation.

ISSUE: For mitigation measures to be successful, it is important that there be clear and detailed instructions for responsible individuals to carry out. This is best accomplished through production of a plan that covers all aspects of the necessary biological mitigation measures. If conditions change such that a specified mitigation appears to be unworkable, or unsuitable under new unanticipated circumstances, the plan shall allow for modification with the approval of the Energy Commission compliance project manager (CPM) in consultation with appropriate local, state, and federal agencies. AFC pages 5.3-31 through 5.3-34, §5.3.8 describes general mitigation measures and construction monitoring.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

27. Please provide a detailed "Biological Resources Mitigation Implementation Plan" (BRMIP) which the project owner's supervising construction and operating engineers will utilize to carry out biological resources mitigation measures in consultation with HDPP's designated biologist.
28. If a detailed "Biological Resources Mitigation Implementation Plan" has not been completed, please provide a draft plan that includes details of proposed mitigation actions encompassing items described below:
- identification of all sensitive biological resources to be impacted or avoided by project construction and operation;
 - provisions for including all conditions agreed to in the California Department of Fish and Game (CDFG) Endangered Species Memorandum of Understanding;
 - provisions for including all mitigation, monitoring and compliance conditions included in the Commission's Final Decision;
 - provisions for including all conditions agreed to in a CDFG streambed Alteration Agreement;
 - clear description of mitigation measures required for each sensitive biological resource;
 - clear description of the means of providing required habitat compensation for any loss of sensitive biological resources;
 - all locations, on a map of suitable scale, requiring temporary protection/signs during construction;
 - monitoring duration for each type of monitoring and a description of monitoring methodologies and frequency;
 - performance standards to be used to help decide if/when proposed mitigation is, or is not, successful;
 - all remedial measures to be implemented if performance standards are not met;
 - time and place be established for administering a worker education program, including what specific subjects will be covered, to what extent

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

written and/or video material will be used, provisions for workers to acknowledge they have been administered the education program and agree to abide by the mitigation measures set forth in the training; and,

- any other items HDPP feels are important and should be included in the BRMIP.

ISSUE: On page 5.3-32 is a reference to a "HDPP Revegetation Plan". It is important that the revegetation plan be available for review by Energy Commission staff and other appropriate parties. For meeting biological resources related concerns, it should be an element of the Biological Resources Mitigation Implementation Plan.

29. Please provide a copy of the revegetation plan.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Cultural Resources

Author: Kathryn Matthews

ISSUE: The reviewer at the State Office of Historic Preservation (SHPO) has notified the Energy Commission that he needs a map showing the location of certain parcels to supplement the names identified in the parcel ownership list provided in AFC Table 1.0-2. [Letter from Cherilyn Widell, State Historic Preservation Officer (SHPO), to Bob Therkelsen, dated July 30, 1997]. The location and type of federal ownership and/or involvement in the High Desert project will shape how SHPO will participate in the Commission's regulatory review process.

30. In reference to the list of parcel owners provided in AFC Table 1.0-2, please provide the following additional information to clarify parcel ownership:
- a. The name of the agency and the current address for entries such as, "Government Land"... "File" or "United States of America"... "File". 90053".
 - b. Current parcel maps for those individual governmental parcels identified in item a, above, that identify the location of proposed project structures, facilities, routes, or rights-of-way.

ISSUE: Once the final foundation pads or footing locations for the transmission towers, and the final routes, rights of way, and center lines for all linear facilities have been determined, the applicant's designated cultural resource specialist is to conduct pre-construction surveys and prepare a more detailed Mitigation and Monitoring Plan. This plan would indicate areas that need to be flagged and avoided, or where buffer strips need to be established; areas which should be shovel-tested or sampled and how much material is to be collected; areas or post-miles of the linear routes that need to be monitored and the frequency of monitoring, or percentage of route to be monitored; or any other measures that resource sensitivity dictates.

31. Please provide an overall map (or series of strip maps) at a suitable scale of the project linear facility routes and rights-of-way with the post-miles and tenths of post-miles indicated along each of these routes.
- a. In table form, please indicate by post-mile (or fractions thereof), areas that need to be flagged and avoided due to cultural resource sensitivity; or where buffer strips need to be established; areas which should be shovel-tested or sampled and how much material is to be collected; areas or post-miles of the linear routes that need to be monitored and the

HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)

frequency of monitoring, or percentage of route to be monitored; or any other measures that resource sensitivity dictates.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Facility Design

Author: Kisabuli

ISSUE: Our past practice in siting cases has been to recommend to the Commission conditions of certification that require the project to be built to the most recent applicable codes and standards recognized by the State of California at the time of construction.

It is our understanding that the California Building Standards Commission is currently promulgating what will become the 1998 California Building Code (CBC), based on the 1997 Uniform Building Code (UBC). We expect the 1998 CBC to be adopted in January 1998 and be effective in July 1998. Therefore the 1998 CBC will be the applicable code at the time of construction of the project.

Since the 1998 CBC will be based on (and requirements for this project very likely identical to) the currently available 1997 UBC, conceptual/preliminary design descriptions in the AFC should refer to the 1997 UBC. This will provide staff the basis to review and determine whether the proposed project will be designed pursuant to the regulations and codes applicable to the project at the time of construction. Therefore staff needs the following:

32. Please provide a complete update of Appendices C and D to reference the requirements of the 1997 UBC.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Hazardous Materials Management

Author: Rick Tyler

ISSUE: Information was not provided in the initial filing regarding potential exposures at various distances from the proposed facilities due to accidental spills of hazardous materials. This information is needed to evaluate the potential for impacts in the event of an accidental spill of hazardous materials. Also, the proposed hazardous materials storage facilities do not include any mitigation measures to address spills between delivery vehicles and storage facilities during transfer operations. To evaluate the potential for impact, it will be necessary to model a release of the contents of the delivery vehicle, assuming that the spilled material will spread forming a free pool.

33. Please identify which materials proposed for use at the project site will be subject to the Federal Risk Management Program (RMP) (e.g., aqueous ammonia, sulfuric acid, hydrochloric acid).
34. For each material identified in response to question # 1 above, please provide modeling of a worst case spill. The analysis should be based on spills between delivery vehicles and the storage facilities. The emission rate estimate from the pool should be based on a spill area resulting from a release of the entire content of the delivery vehicle and spreading of the spilled material to a depth of one centimeter. It should also be assumed that the spilled material will be at a temperature of 120 degrees Fahrenheit (°F), and "F" atmospheric stability. The results should be provided in terms of the distance to four bench mark exposure levels. These should include exposure levels associated with lethality, the immediately dangerous to life and health (IDLH) levels, RMP trigger levels and levels without serious adverse effects on the public. For example, the levels for ammonia are: 2000 ppm, 500 ppm, 200 ppm and 75 ppm respectively.

Note: The containment area for the ammonia tank is described on AFC page 5.8-14. However, the catchment basins between the delivery vehicles and the storage facility are not described. Most projects approved by the Commission have included catchment basins between the delivery vehicles and the storage facility, which drain by gravity to the diked area under the storage tank, thus preventing the free spreading of spilled materials. If such facilities are included in the project, modeling can be based on the spill being confined to a surface area of the diked basin. In some cases, it has also been prudent to incorporate floating surface covers or sumps to further reduce the spill's surface area.

It is likely that the proposed facility, as currently designed, will be required to comply with either level 1 or level 2 requirements under the new Federal RMP program. To achieve level 1 status, a finding must be made that the facility

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

would not pose any risk to any public receptor. In most cases, this means that no hazardous material concentration greater than the Emergency Response Planning Guideline (ERPG1) should occur beyond the fence line in the event of a worst case release from the project. Based on our recent experience with other facilities involving use of similar low hazard materials, it is our belief that the High Desert project will be able to comply with level one criteria. To insure that such concentration levels are not exceeded, it may be necessary to inclose the storage area within a shed, which would further reduce dispersion rates from a spill. If any or all of these mitigation measures are included in the project design, on which the modeling is based, the modeling results may satisfy both staff's need for an impact analysis and the RMP requirement to demonstrate that the project is not subject to the level 2 requirements.

ISSUE: Human error is the root cause of a large number of accidental releases of hazardous materials. The primary method of mitigating such errors is the development and implementation of effective safety management practices. While a specific safety management plan cannot be developed based on the level of facility design available during our certification process, it is, however, possible to develop a plan outline which describes the nature and scope of the safety management practices which would be provided for review and approval prior to operation of the facility.

35. Please provide an outline which describes the scope and elements of a safety management plan for the operation of the proposed facility.

Note: Attachment A contains an outline of the Safety Management Plan provided for the Redding Peaking Project. This outline is based on the recommendation of the American Institute of Chemical Engineers. This outline is very comprehensive and could be used as a basis for developing an operational plan for effective safety management at the proposed facility. The plan should focus special attention on safety management of transfer operations involving any materials subject to Federal RMP requirements. The plan outline for the High Desert Project should be specific to hazardous materials handling associated with the High Desert facility.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Land Use

Author: C. Jeffery Evans

ISSUE: The lease between the Victor Valley Economic Redevelopment Authority (VVEDA) and the United States Air Force (USAF) prohibits land uses that are not specifically airport-related (**Conditions 6.1, and 26.5 of the Lease dated April 29, 1994**). The applicant has offered conclusionary statements regarding the projects' conformance with these requirements, but has not provided a substantive analysis supporting its contention.

36. Please explain the reasoning that leads to these conclusions. Include summaries, with appropriate documentation (i.e. reports of conversation, correspondence, meeting reports), with officials of VVEDA, the USAF, and other agencies as appropriate.

ISSUE: Staff needs to evaluate whether or not the project complies with applicable aviation safety regulations. For example: The Comprehensive Airport Land Use Plan (CALUP) prohibits development within an area adjacent to the airport runways and restricts development in close proximity to the runways (see Section 1, Subsection F, Items 2 and 3). However, on page 5.5-11, Section 5.5.2.2.11, paragraph five, the AFC states that "[d]ue to the small scale of the figures presented in the CALUP it was difficult to determine the exact location of the project site, through it appeared to be located just outside the transitional surface. The project site is not located within the approach surface." In order to evaluate the project's conformance, staff needs to know the precise location of the project relative to the CALUP safety zones.

37. Please provide an illustration (at a scale that delineates clearly between the restricted areas and the project) of the relationship between the location of all power plant site, related structures and the imaginary surfaces described in Section 5.5.2.2.11 of the AFC. Based on this analysis, please verify that the discussions in AFC section 5.5.2.2.11 regarding the project's conformance with the CALUP are still valid and complete.

ISSUE: Staff needs to evaluate whether or not the project complies with applicable aviation safety regulations. Applicant has not provided an analysis to substantiate the project's compliance with applicable regulations. Staff needs the following information to evaluate the project's conformance with regulations.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

38. On AFC page 5.5-14, Section 5.5.2.2.11, under item number 3 (regarding reflecting glare, electronic interference and smoke interference with aircraft operations) it is stated that "[t]he project will be compatible with this development standard." Please discuss the extent to which the projects will create thermal plumes that may interfere with the takeoff and landing of a variety of aircraft and the nature of that interference. Include a discussion of the process and methodology used to characterize the impacts of thermal plumes and all diagrams necessary to illustrate your findings.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Paleontological Resources

Author: Kathryn Matthews

ISSUE: The Curator of Earth Sciences at the San Bernardino County Museum has notified the Energy Commission in a letter dated August 18, 1997, that the county requires that a qualified vertebrate paleontologist develop a "Paleontological Resources Impact Mitigation Plan" (PRIMP) that conforms to the guidelines of San Bernardino County and those of the Society of Vertebrate Paleontologists (SVP). The letter sets forth a list of topics or activities that must be addressed in the PRIMP.

Once the final foundation pads or footing locations for the transmission towers, and the final routes, rights of way, and center lines for all linear facilities have been determined, the applicant's designated paleontological resource specialist needs to prepare a more detailed Mitigation and Monitoring Plan. This plan would indicate areas that need to be flagged and avoided, or where buffer strips need to be established; areas which should be sampled and how much material is to be collected; areas or post-mile sections of the linear routes that need to be monitored and the frequency of monitoring, or percentage of route to be monitored; or any other measures that resource sensitivity dictates.

39. Please provide an overall map (or series of strip maps) at suitable scale of the project linear facility routes and rights-of-way with the post-miles and tenths of post-miles indicated along each of these routes.
40. In table form, please indicate by post-mile (or fractions thereof), areas that need to be flagged and avoided due to paleontological resource sensitivity; or where buffer strips need to be established; areas which should be shovel-tested or sampled and how much material is to be collected; areas or post-miles of the linear routes that need to be monitored and the frequency of monitoring, or percentage of route to be monitored; or any other measures that resource sensitivity dictates.

ISSUE: At a staff pre-AFC public workshop, the applicant's representatives indicated that geotechnical studies of the project site had previously been conducted for other developments and that new geotechnical studies were in progress. The applicant indicated it could provide copies of such previous geotechnical studies of areas affected by the project, including the boring logs and map of the bore locations, and the results and findings. Copies of any new studies would be provided when they were completed.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

41. Please provide a copy of the previous, as well as any new, geotechnical studies of areas affected by the project, including the boring logs and map of the bore locations, and the results and findings.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Project Description

Author: Richard Buell

ISSUE: On AFC page 3.1-2 it is indicated that tertiary treated waste water from the Victory Valley Water Reclamation Authority (VWVRA) will not be used to supply water for the proposed project. However, AFC Figure 1.1-1 shows a pipeline to connect the VWVRA facility to the proposed project. On AFC page 3.4-22 it is stated that "[i]f tertiary treated water is considered in the future for plant raw water uses, a pipeline will extend 2.25 miles from the VWVRA south to the project."

42. Is the applicant proposing that the pipeline from the VWVRA to the project be approved as part of the Energy Commission's current certification of the proposed project?

ISSUE: The primary water supply for the High Desert Power Project is State Water Project water. This water supply, however, may suffer interruptions, during which, groundwater will be used. Figure 5.11-1 in the AFC shows the general location of proposed production wells along El Evado Road. The text in the AFC, however, states on page 5.11-15 that "... existing wells, new wells or a combination thereof will be used to extract groundwater..." The discussion following this states that groundwater would be purchased from Victor Valley Water District at the locations indicated on the map. Even if Victor Valley Water District owns and constructs the wells for the project, additional information is required by staff to analyze the potential environmental consequences of the proposal.

43. Please identify exactly where the wells are located that will provide groundwater for the proposed project.
- a. Identify whether these wells are proposed or existing and identify the ownership of these wells.
 - b. Include the production of these wells, well depth, and screen depth and interval.
 - c. Please identify whether these wells are to be used for other purposes and identify those purposes.
44. Please provide a description of the proposed method to convey water from the proposed wells to the project site. Include a map showing the route that is proposed to convey water from the wells to the project site.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

45. Please provide an environmental assessment that addresses potential impacts to biological, cultural, paleontological or other environmental resources at the well sites and along the proposed conveyance route to the project site.
- a. Include a discussion of proposed mitigation measures to protect these environmental resources.
 - b. For biological resources, include the results of any biological resource surveys conducted at the well sites, conveyance route, and access roads. Also include the survey protocols that were used and the name of the biologist who performed the surveys. If biological resources surveys have not been done, provide an approximate date when they are scheduled, indicate who will do them, and describe the survey protocols that will be used. In addition, please revise the proposed endangered species habitat compensation acreage based on the anticipated habitat losses associated with the new wells.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Public Health

Author: Obed Odoemelum

ISSUE: Staff needs to assess health risk created by the project due to emissions of toxic or hazardous pollutants. In order to assess whether the project represents an acceptable health risk, staff needs the applicant to provide a health risk assessment pursuant to Air Resources Board (ARB) and California Air Pollution Control Officers Association (CAPCOA) guidelines.

46. Please provide a health risk assessment based on the highest emissions from the three configurations of the proposed project. The health risk assessment should be conducted pursuant to the CAPCOA's Revised 1992 Risk Assessment Guidelines (October 1993). We recommend that the ARB and Office of Environmental Health Hazards Assessment (OEHHA) Health Risk Assessment computer model (HRA 2.0) be used. The health risk assessment should include the following:
- a. Identification of emissions analyzed. We recommend that the emissions from the CATEF¹ database should be used as the basis for the public health risk assessment, with the exception of those emissions which are rated as having insufficient data to validate the test results. Staff has compiled a list of toxic emissions (see Attachment B). If emissions other than those identified in Attachment B are analyzed, please include a justification for the changes.
 - b. Identify all facility sources of exposure other than turbines. For all such sources, identify the toxicants involved, the health effects possible, and the procedures for assessing the potential for significant effects. If there are to be no such sources of significant emissions, the rationale for this assumption should be provided along with the analyses involved. The sources to be considered should include cooling towers, duct burners, the natural gas pipeline, and the oil/water separator.
 - c. Identification of assumptions, algorithms, and software used to evaluate the potential health impacts of all project-related pollutants. If the assumptions, algorithms and software are different than those found in CAPCOA's risk assessment guidelines, explain why they are appropriate.

¹Air Resources Board (ARB), California Air Toxics Emission Factors, April 1996.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

- d. The health risk assessment protocol only identified inhalation exposure pathways. Please provide the reason for only considering the inhalation exposure pathway in assessing the potential health risks from public exposure to all project-related emissions.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Socioeconomic Resources

Author: Amanda Stennick

ISSUE: The AFC (page 5.6-1) states that City of Victorville Ordinances 1451 and 1301 may be applicable to the project and may require developers to pay fees to finance infrastructure and the increased need for public improvements. In order for staff to determine how the project will comply with the above-cited ordinances, please provide the following:

47. Please discuss whether City of Victorville Ordinances 1451 and 1301 are applicable to the project, and if applicable, how the project will comply with these ordinances.
 - a. Indicate the amount that the project will be assessed in city fees and developer impact fees.
 - b. Indicate how these fees are assessed (e.g. based on the project's square footage)
 - c. identify the project's square footage (for purposes of calculating fees or assessments).

ISSUE: In the draft AFC, the applicant has indicated that school districts can charge up to \$.30 per square foot for industrial developments. In order for staff to determine how the project will comply with the above-cited ordinances, please provide the following:

48. Please identify the project's square footage (for purposes of calculating school impact fees), the amount to be paid in school impact fees, and the school districts that will receive the fees.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Soils

Author: Joe O'Hagan

ISSUE: Construction of the High Desert Power Project may induce water and wind erosion at the power plant site and along the associated linear facilities.

49. Please provide a draft erosion control and revegetation plan that identifies measures that will be implemented at the power plant and associated facilities. The plan shall identify all permanent and temporary measures in written form and be depicted on a construction drawing(s) of appropriate scale. The plan format should follow appropriate requirements of the City of Victorville. The elements of the plan shall include temporary and permanent measures, including storm water runoff control and revegetation efforts. Revegetation information in the plan should specify the type of seed and fertilizer, seeding and fertilizer rate, application method, the type and size of any container plants to be used and criteria for judging revegetation success. The plan should also identify maintenance and monitoring efforts for all erosion control measures, including measures to rectify unsuccessful revegetation efforts.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Visual Resources

Author: Gary Walker

ISSUE: Staff needs to determine the degree of visual impacts due to the Victor Valley Water Reclamation Authority (VWVRA) pipeline and to determine whether the mitigation proposed is sufficient. The AFC (page 5.9-20) states that mitigation measures are recommended to ensure that impacts of the VWVRA pipeline remain visually subordinate in the long-term. The AFC (page 5.9-26) specifies minimizing ground disturbance, restoring contours, minimizing trench width, and avoiding unnecessary ground disturbance will be employed to mitigate impacts.

50. Please specify the average and maximum width of ground disturbance that construction of the VWVRA pipeline will cause.
51. Please explain whether revegetation is proposed for the area disturbed by construction of the VWVRA pipeline.

ISSUE: Staff needs to determine the likely effectiveness of mitigation proposed for the transmission line. The AFC (page 5.9-23) states that "depending on the exact size and location of the proposed transmission lines, views from the golf course, proposed El Evado Road expansion, and other P/OS [public/open space] areas in Unit 4 could range from visually subordinate to highly evident or dominant, and thus are potentially inconsistent with a Class II area. This is a potentially significant impact.However, with mitigation as recommended below, including careful siting of poles to place them out of the most important view corridors from the golf course to the valley and mountain, and siting of the line on the uphill (western) side of El Evado Road, these effects could be kept to a subordinate level and thus be less than significant."

For the proposed mitigation to be effective, enough room must exist between the golf course and the location of the El Evado Road expansion. Furthermore, the two mitigation measures may conflict, as the AFC notes (pages 5.9-26 to 5.9-27): "If feasible, the transmission line should be sited upslope (west) of proposed El Evado Road in order to minimize obstruction of scenic views from the roadway, unless doing so would increase impacts to the golf course" [emphasis added].

52. Please provide a map at a scale of 1:500 showing the precise route of the El Evado Road expansion and the proposed transmission line from the area of the power plant to the southeastern corner of the golf course.
53. Please provide a discussion of the feasibility of placing the proposed transmission line on the uphill (western) side of El Evado Road.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

54. Please discuss the extent to which the poles can be placed out of the most important view corridors from the golf course to the valley and mountain, given the constraints imposed by placing the line on the uphill (western) side of El Evado Road.
55. Please provide two sets of 8 1/2" x 11" color photo reproductions of each of the most important view corridors of the valley and mountain from the golf course. If the most important view corridors for the valley and the mountain are the same, this will consist of two color reproductions. If they are not the same, this will consist of four reproductions.
56. Please provide two sets of 8 1/2" x 11" color photo simulations of the poles to show whether they will avoid these corridors.

ISSUE: The AFC (page 5.9-23) discusses the visual impacts of the proposed transmission line from residences in Oro Grande and from National Trails Highway areas (Landscape Unit 1). The AFC states that "[i]n the segment most visible to key observation points (KOPs) 4, 5, and 6 in Oro Grande, the proposed transmission line and towers would be sited back from the plateau slope edge, and a slightly higher elevation than the KOPs. As a result, a portion of the towers would be hidden from view at KOPs 4, 5, and 6 due to the intervening terrain, slightly reducing their visual magnitude."

57. Please provide an estimate of the portion of the towers that would be visible from KOPs 4, 5, and 6.

ISSUE: The AFC (page 5-26) states that "[c]ontrast of visually prominent project features should be partially reduced by painting in a non-reflective light blue color to blend with the background sky. The taller exhaust stacks cannot be painted in this way due to their very high operating temperatures, but will be painted in an appropriate cost-effective and heat-resistant color." Staff's experience on previous siting projects has been that a wide range of non-reflective heat-resistant custom colors is available.

58. Please explain why a non-reflective heat-resistant color is not proposed for the exhaust stacks.

ISSUE: The AFC (page 5.9-21) states that "[f]rom residences in Oro Grande (KOP 6), portions of the project site would be visible at a distance of roughly one and one-half miles. Likewise, for travelers on National Trails Highway, the plant would be visible at distances of between one and one-half and three or more miles from the plant (see

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

visual simulation in Appendix T). During morning hours, tall shiny elements could cause slight reflective glare and a weak degree of overall contrast. In the afternoon, glare would be less likely, but the skylined silhouette of vertical elements on the horizon of the plateau would accentuate line and form contrast. This impact is not mitigable in sunset views, however, it is mitigable in daytime views by color treatment of stacks and tall elements."

- 59. Please explain why the reflective glare during morning hours is assessed to be slight.
- 60. Please explain whether the unmitigable impact of the skylined silhouette of vertical elements on the horizon of the plateau in sunset views is considered to be a significant impact. If not, please explain why not.
- 61. Please explain the extent to which color treatment of stacks and tall elements can mitigate the impact of the skylined silhouette of vertical elements in afternoon views (other than in sunset views) when the vertical elements are shaded.

ISSUE: The AFC (pp.5.9-21 to 5.9-22) discusses the impact of visible plumes due to the project. The AFC states that "[v]isible plumes could occur and would be visible from viewpoints throughout the viewshed due to their great potential height (depending on wind conditions, etc.). However, these plumes would be visually subordinate and result in less than significant impacts in virtually all locations."

- 62. Please explain why plumes that have "great potential height" would be "visually subordinate."

ISSUE: The AFC states that "[i]n worst case instances, under certain wind and temperature conditions, plumes could potentially be visually co-dominant (moderate contrast) in views from Landscape Unit 1 (Oro Grande and nearest portions of National Trails Highway). However, such instances would be extremely occasional and of brief duration."

- 63. Please provide quantified estimates of the expected maximum and average height and width of the visible plume from the exhaust stacks, as well as the expected frequency of occurrence and duration, specifying the total number of hours per year. Please provide the data, assumptions, and calculations used to derive these estimates.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

64. Please provide quantified estimates of the expected maximum and average height and width of the visible plume from the cooling towers, as well as the expected frequency of occurrence and duration, specifying the total number of hours per year. Please provide the data, assumptions, and calculations used to derive these estimates.

ISSUE: Staff needs to determine the accuracy of the simulations provided.

65. The AFC (Appendix T) contains visual simulations of the power plant and transmission line. Please provide a discussion demonstrating that the simulated size of the facilities is accurate. Include a description of the simulation technology used and the means for verifying the accuracy of the simulations.

ISSUE: The AFC (page 5.9-1 to 5.9-2) states that "[t]he County of San Bernardino General Plan contains extensive policies on scenic resources, some of which could apply to the project site." The AFC goes on to discuss several policies "applicable to the project area." However, in the section on compliance with applicable LORS, the AFC (page 7.0-8), in regard to the General Plan, designates the plan as "N/A" [not applicable].

66. Please provide a discussion regarding the conformity of the project to the General Plan policies pertaining to visual resources.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Waste Management

Author: Ellen Townsend-Smith

ISSUE: The major waste stream that will be generated is the dried crystalline brine residue associated with the water treatment process. The AFC states, that the waste stream will generate approximately 5.4 tons per day of solids. The composition of the waste was described in Appendix B Tables B-14 and B-19. It is also stated that "there is evidence that similar material from an existing facility has passed the Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP)." The following information is needed so that staff can determine whether there is the potential for significant impacts from the generation and management of project generated hazardous or nonhazardous wastes.

67. Please identify the existing facility which passed the RCRA TCLP.
- a. Please provide a description of the composition of the waste stream from the existing facility.
 - b. Please discuss whether or not the waste stream from the proposed project would be expected to be similar in composition to that of the existing facility. Include in the discussion the reasons why the waste streams would be considered similar or dissimilar.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Water Resources

Author: Joe O'Hagan

ISSUE: The backup water supply for the High Desert Power Project is groundwater. Figure 5.11-1 in the AFC shows the general location of the seven proposed extraction wells that will be used by the project. An analysis of potential groundwater drawdown was provided in the AFC based upon the indicated location of the seven wells. The text in the AFC, (for example, pages 5.11-1 and 5.11-15), however, indicates that "...existing wells, new wells or a combination thereof will be used to extract groundwater..." Also Data Requests 43 through 45.

68. If the well locations are different than that identified in the AFC, please provide a new analysis that identifies and discusses potential groundwater drawdown and interference with neighboring wells. If appropriate, provide additional groundwater modeling that identifies project effects on the regional aquifer, local wells and the movement of contaminant plumes.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Worker Safety

Author: Ellen Townsend-Smith

ISSUE: Staff needs to evaluate whether or not the proposed project complies with applicable laws, ordinances and standards, and whether or not the project represents an acceptable risk for occupational safety and fire protection. After reviewing sections 3.4.10.1, and 5.8 of the AFC, staff determined that additional information is required to complete an analysis of the worker safety program. The information requested is required to allow staff to independently evaluate the potential for worker and fire safety impacts associated with the proposed project.

69. Please provide a synopsis of the emergency procedures for plant personnel during the operational phase.
70. Please provide information on personnel fire safety training, and fire safety assignments, such as: fire professional, fire brigade and incipient fire personnel. Also identify the types of personal fire protection equipment/clothing that are assigned to each of the three types of fire response personnel defined above.
71. Please identify the primary and alternative routes, if any, that emergency response teams can use to gain access to the power plant site when emergencies and/or fires occur during construction and operation of the project.
72. Provide a draft copy of the Injury and Illness Prevention Plan (IIPP)(Cal Code Regs., tit.8, § 1509), Emergency Action Plan (Cal. Code Regs., tit. 8, § 3220), and the Fire Prevention Plan (Cal. Code Regs., tit.8, § 1920).
73. Provide a description of the types of personal protective clothing and equipment which must be worn or used by employees and contractors to mitigate the risk of worker injuries.
74. Provide a description of contractor, construction worker and operation personnel safety training programs.
75. Please provide a summary of the safe work practices that employees will be expected to comply with during construction and operation of the facility. Safe work practices include, but are not limited to, items such as smoking, lock-out/tag-out, confined spaces entry program, and hot work practices.

**HIGH DESERT POWER PROJECT
DATA REQUESTS
(97-AFC-1)**

Technical Area: Transmission System Engineering

Author: Al McCuen

ISSUE: Staff needs to perform an independent assessment of the applicant's power flow analysis and assumptions to determine conformance with transmission system reliability criteria and to identify potential mitigation measures.

76. For each power flow case summarized in AFC Appendix BB, please provide an electronic copy of the power flow output which is readable in Microsoft Excel 4.0 or higher (e.g., an excel file (*.xls), dBase format (*.dbf) or in a comma, space or tab delimited format).
77. The applicant's transmission system analysis demonstrates that the major transmission system in the project region is highly stressed. Please provide a stability analysis which demonstrates stability performance with and without insertion of High Desert power into the Victor substation. This study should be coordinated with affected transmission owners in the region, at a minimum SCE and LADWP.

HIGH DESERT POWER PROJECT
DISCUSSION TOPICS
(97-AFC-1)

Technical Area: Transmission System Engineering

Author: Al McCuen

DISCUSSION TOPICS: Staff has identified the following Transmission System Engineering topics to be discussed at a workshop to be scheduled in early January 1998. The applicant should consider providing written responses prior to the workshop for any of the following discussion topics which it believes would facilitate early resolution of the topic. Based on the workshop discussions staff may determine that written responses are required. If so, staff and applicant will establish a mutually agreeable due date at the workshop.

1. Please explain the following discrepancies and indicate which values are correct:
 - a. Appendix BB Table BB-1 lists 130 % loading for case 155base1, for both Lugo-Mira Loma 500 kilovolt (kV) lines out. Table 3.5-3 lists 123 % for the same conditions.
 - b. Table BB-1 lists 100 % loading for case 139base1 with the Mira Loma 500/230 kV transformer and Mira Loma-Serrano 500 kV line out. Table 3.5-3 lists a value of 98 % for the same conditions.
 - c. Many of the values in Table BB-1 differ by one percent from values in Tables 3.5-3 and 3.5-2. The difference in reported values noted above appear also in Tables 6.4-6 and 6.4-7 and should be revised accordingly.
 - d. AFC page 3.5-9 indicates that the Victorville-Lugo line is rated by Southern California Edison (SCE)/Los Angeles Department of Water and Power (LADWP) at 1950 Megawatt (MW) north to south. Power flow plot case 132base2 under a N-0 shows 2011 MW and 78 Megavolt-Ampere (MVAR) on this circuit. Please explain this apparent discrepancy and its significance (if any).
2. A 1998 base case was used to model the system response to the High Desert generation. Yet, AFC page 1.0-1 indicates that the project does not go on line until 2000 or 2001. Were any changes in load, generation or imports made to the 1998 case to account for the on line schedule? If so, how were the input levels set?
3. The SCE study to identify "must run" generation in the SCE Transmission Upgrade Application (November 27, 1996) and in SCE's five year transmission

**HIGH DESERT POWER PROJECT
DISCUSSION TOPICS
(97-AFC-1)**

plan, proposed an alternative which included 500/230 transformers(among other system changes) at Mira Loma and Vincent.

- a. Please discuss why the Series I and Series II studies modeled a 500/230 kV fourth transformer at Mira Loma but none at Vincent.
 - b. Why was a fourth transformer modeled at Mira Loma given that a fourth transformer no longer appears in SCE's five year transmission plan (personal conversation) and the Independent System Operator (ISO) apparently has decided to use "must run" generation rather than transmission upgrades.
4. On Appendix BB, page BB-6 it is indicated that with one exception, no low voltage violations of SCE's criteria occurred in the studies. In case 155base1 excessive voltage deviation occurred.
 - a. Does the applicant consider these criteria violations acceptable and if so what is the basis for that conclusion?
 - b. What potential mitigation could be used to reduce or avoid these violations?
5. On page BB-5 of Appendix BB it is stated that "these pre- and post-HDPP overloads could be reduced by either reducing WOR (west of river) transfers, reducing generation north of Lugo, and/or by increasing SCE generation in the San Bernardino area."
 - a. Please clarify that "these" refers to the overloads discussed in the above paragraphs, 18 pre-HDPP and 18 post-HDPP cases. Discuss the pros and cons of each potential mitigation practice. Please note also that the Southern California Import Transmission (SCIT) nomogram which was relied on in the studies, was revised 10/22/96 and the new East of River (EOR) rating is 7550 MW (Western Systems Coordinating Council (WSCC) 1997 Path Rating Catalog, February 1997).
 - b. Also discuss the system reliability implications of mitigating overloads footnoted in Table BB-1 where HDPP generation is reduced by amounts ranging from 400 MW to 690 MW.
6. Certain modeling assumptions used to perform the transmission system analysis need to be understood. Please provide the following information:

**HIGH DESERT POWER PROJECT
DISCUSSION TOPICS
(97-AFC-1)**

- a. What was the rationale for selection of the "Must Run" in-basin generation assumptions used in the Series I and Series II power flow studies?
- b. Please identify the generation units used to make up in-basin generation for the power flows.
- c. Please discuss the implications of the sale of the Coolwater generation and the Series II studies which assume no Coolwater generation operating for the 149base2, 155base1, 132base2, and 139base1 conditions.
- d. No N-1 (one system element out) sensitivity case was provided for outage of the High Desert outlet line. Would such a case not be required given the size of the project and the deficit loss that 700 MW would create?
- e. In SCE's November 11, 1996 workshop on Reliability "Must Run" Generation, they specify the following thermal limits for:

Transmission Lines

For N-1 and N-2 events limit emergency line loading to 115 % and 135 % respectively, of the full load rating of the line.

500/230 kV Transformers

For N-1 and N-2 events, limit emergency transformer loading to 110 and 120 % respectively of the nameplate rating for periods not to exceed 24 hours.

For N-1 and N-2 events, limit emergency transformer loading to 130 % and 150 % respectively of the nameplate rating for periods of time not to exceed 1 hour.

The ratings identified in "d" above are not consistent with those used in AFC Table 3.5-1 which was based on a rather dated Form T4 of the Energy Commission's Electricity Report 94 Common Forecasting Methodology. Please discuss these differences and any significant modeling implications. Please verify also that the ratings used for LADWP circuits are correct.

- 7. WSCC Reliability Criteria, section 4.3 requires that the system operator identify and prepare for the next contingency. For the N-1 and N-2 contingencies with

**HIGH DESERT POWER PROJECT
DISCUSSION TOPICS
(97-AFC-1)**

the HDPP generation in service, what are the next contingencies, and should power flow studies be conducted for them?

8. WSCC criteria requires that bulk power system additions be reported to the WSCC.
 - a. Given the size (700 MW) of the proposed project, will the project be reported after acceptance of the AFC?
 - b. Has the facility been listed with the Western Regional Transmission Association? If not, would the Applicant do so?
9. While the AFC identifies system reliability implications of the High Desert project, there are no indications of potential system benefits from insertion of High Desert power into the system. Potentially, the High Desert project could reduce "must-run" generation; would this not be a potential benefit? Please identify, if any, the potential system benefits of the High Desert project.
10. The High Desert project crosses four Los Angeles Department of Water and Power (LADWP) transmission lines. Generally describe how these crossings can be accomplished in a safe, reliable and environmentally acceptable manner. If existing towers are anticipated to be relocated or modified, or if new towers on the LADWP route(s) are to be installed, please so indicate.
11. Previous discussions during data adequacy regarding a transmission system interconnection study to be conducted and provided by SCE were held between the applicant and SCE. What is the status of those discussions and when would the results of the interconnection study be made available to staff?

ATTACHMENT A

**Risk Management
Redding Peaking Plant
Small Power Plant Exemption Application
July 10, 1992**

**NOTE: The text of this attachment is not available electronically.
If you wish to see a copy of the attachment, please contact Richard Buell at (916)
653-1614 or E-mail at rbuell@energy.state.ca.us**

ATTACHMENT B

NONCANCER REFERENCE EXPOSURE LEVELS (REL) AND CANCER POTENCY VALUES FOR COMBUSTION TURBINE EMISSIONS

NONCANCER REFERENCE EXPOSURE LEVELS (REL) AND CANCER POTENCY VALUES FOR COMBUSTION TURBINE EMISSIONS ¹					
Substance Emitted ²	Acute REL µg/m ³	Chronic REL µg/m ³	Cancer Unit Risk µg/m ³ · ⁻¹	Oral Potency Value mg/kg ⁻¹	Oral REL mg/kg/day
Ammonia	2.10e+03	1.00e+02			
Acenaphthene					
Anthracene					
Benzo(a)anthracene			1.10e-04	1.15e+00	N/A
Benzo(a)pyrene			1.10e-03	1.15e+01	N/A
Benzo(b)fluoranthene			1.10e-04	1.15e+00	N/A
Benzo(e)pyrene*					
Benzo(g,h,i)perylene					
Benzo(k)fluoranthene			1.10e-04	1.15e+00	N/A
Chrysene			1.10e-05	1.15e-01	N/A
Dibenz(a,h)anthracene			3.90e-04	4.10e+00	N/A
Fluoranthene					
Fluorene					
Indeno(1,2,3cd)-pyrene			1.10e-04	1.15e+00	N/A
Napthalene		1.40e+01		N/A	4.00e-03
Phenanthrene					
Pyrene					
2-Chloronaphthalene*					
2-Methylnaphthalene*					
Ethylbenzene					
Perylene*					
1,3-Butadiene*			1.70e-04		
Acetaldehyde		9.00e+00	2.70e-06		
Acrolein		2.00e-02			
Benzene		7.10e+01	2.90e-05		
Formaldehyde	3.70e+02	3.60e+00	6.00e-06		
Hexane*					
Propylene					
Propylene Oxide*	1.00e+03	3.00e+01	3.70e-06		
Toluene		2.00e+02			
Xylene (Total)	4.40e+03	3.00e+02			
Xylene (m,p)*					
Xylene (o)*					

¹ Reference exposure levels and cancer potency factors from ARB's Health Risk Assessment Program version 2.0e User's Guide for AB 2588 risk assessments

² from California Toxic Emissions Factors (CATEF) database for natural gas fired combustion turbine cogeneration

* insufficient data for validation of results